

ABSTRACT

Disclosed are a catalyst for removing dioxin and a preparation method thereof. The catalyst is prepared by recycling a spent catalyst discharged from a hydro-desulfurization process of an oil refinery in which the spent catalyst comprises an alumina support (preferably, gamma alumina) with a large specific surface area impregnated with high contents of vanadium. The spent catalyst is mixed with a tungsten-impregnated titania, whereby a catalyst comprising suitable metal components and a mixture support of alumina and titania may be prepared. The catalyst in accordance with the present invention has excellent dioxin removal performance and low preparation cost because of recycling the spent catalyst.